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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,163	11/03/2003	Allen D. Clawson	D-3082	5545
33197	7590	02/14/2005		
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EXAMINER	
PRINCE, FRED G	

ART UNIT	PAPER NUMBER
1724	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/701,163

Applicant(s)

CLAWSON ET AL.

Examiner

Fred Prince

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-33 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,8 and 10-23 is/are rejected.
- 7) ☒ Claim(s) 3,4,7 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0504.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 20 and 23 are objected to because of the following informalities:  
Claims 20 and 23 are duplicate claims. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Novak (US Pat No 4,341,641).

Novak teaches a separating vessel (12) structured to contain and degas an ozone/aqueous mixture, the separating vessel including an off-gas outlet (40) placed and structured to vent undissolved ozone gas from the separating vessel, and an ozonated water outlet (14) placed and structured to pass the ozone/aqueous mixture from the separating vessel to an application for use, and a mixing tower (surrounding impeller 31), extending into the separating vessel, the mixing tower including an inlet

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portion (26) structured to receive an ozone/aqueous stream, and an outlet portion (25) structured to pass the ozone/aqueous mixture into the separating vessel.

3. Claims 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Augustin.

Augustin teaches a separating vessel (176) structured to contain and degas an ozone/aqueous mixture, the separating vessel including an off-gas outlet (200) placed and structured to vent undissolved ozone gas from the separating vessel, a contact tank (164) connected to the separating vessel, and an ozonated water outlet (166) placed and structured to pass the ozone/aqueous mixture from the separating vessel to an application for use, and a seal mechanism (182, 198; col. 5, lines 9-30) disposed within the separating vessel and structured to substantially prevent liquid water from escaping the off-gas outlet with vented undissolved ozone gas, the seal mechanism including a float arrangement (186) controlling the water level and an ozone destruct assembly (168) connected to the outlet.

4. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Sands et al.

Sands et al. teach a separating vessel structured to contain and degas an ozone/aqueous mixture, the separating vessel (50) including an off-gas outlet (222) placed and structured to vent undissolved ozone gas from the separating vessel, and an ozonated water outlet (216) placed and structured to pass the ozone/aqueous mixture from the separating vessel to an application for use, and a seal mechanism (col. 9, lines 40-43) disposed within the separating vessel and structured to substantially prevent liquid water from escaping the off-gas outlet with vented undissolved ozone gas.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novak in view of Augustin.

Novak is described above. Novak does not disclose the claimed seal mechanism disposed within the separating vessel and structured to substantially prevent liquid water from escaping the off-gas outlet with vented undissolved ozone gas.

Augustin discloses a seal mechanism (182, 198; col. 5, lines 9-30) disposed within the separating vessel and structured to substantially prevent liquid water from escaping the off-gas outlet with vented undissolved ozone gas, the seal mechanism including a float arrangement (186) controlling the water level and an ozone destruct assembly (168) connected to the outlet.

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It would have been obvious for the skilled artisan to have modified the apparatus of Novak such that it includes a seal mechanism disposed within the separating vessel and structured to substantially prevent liquid water from escaping the off-gas outlet with vented undissolved ozone gas in order to prevent the loss of ozonated water from the separation vessel and destroy ozone in order to prevent its release into the atmosphere, as suggested by Augustin.

Per claim 13, is it submitted that it is conventional in the art to utilize O-rings to provide a fluid-tight seal between two parts. Accordingly, it would have been readily obvious for the skilled artisan to have modified the seal of Augustin such that it includes an O-ring in order to provide a fluid-tight seal between the outlet and the float assembly.

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novak.

Novak is described above. Novak does not disclose a diffuser to enhance mixing of the ozone/aqueous mixture.

It is submitted that it is conventional in the art of ozone/water mixing to utilize a diffuser on an outlet portion in order to enhance mixing of ozone and water. Accordingly, it would have been well within the purview of the skilled artisan to have modified the outlet of Novak such that it includes a diffuser on the outlet portion in order to enhance mixing of ozone and water, as known in the art.

***Allowable Subject Matter***

8. Claims 24-33 are allowed.

9. Claims 3-4, 7, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Per claims 3-4, while claim 2 is not patentable for the reasons provided above, in the examiner's opinion, the prior art fails to teach or fairly suggest combining the invention of claim 2 with an ozone injected connected to first and second inlets.

Per claims 7 and 9, while claim 6 is patentable for the reasons provided above, in the examiner's opinion, the prior art fails to teach or fairly suggest combining the invention of claim 6 with a diffuser reducing surface turbulence or spaced apart, radially disposed apertures.

### ***Conclusion***

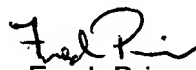
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Fred Prince  
Primary Examiner  
Art Unit 1724

fgp  
2/9/05